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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,152

05/04/2006

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EXAMINER

SANGHAVI, HEMANG

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,152	Applicant(s) WATTE ET AL.	
	Examiner HEMANG SANGHAVI	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/04/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

The preliminary amendment filed on May 04, 2006 has been entered.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The prior art documents submitted by Applicant(s) in the Information Disclosure Statement(s) filed on 05/04/06 have all been considered and made of record (note the attached copy of form(s) PTO-1449).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-15, 24, 28-30, and 35-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 5 of claim 1, line 4 of claim 6, line 2 of claim 24, and line 2 of claim 36, the term "may be" renders the claim indefinite since it is not certain as to whether the limitation(s) following the term are part of the claimed invention, rendering the scope of the claims unascertainable.

Regarding claim 28, the term "e.g." renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention.

See MPEP § 2173.05(d).

Regarding claim 35, applicant claims "a bore" and "the alignment means comprises **a said bore**". It is unclear as to what bore is being referred here as claim 16, on claim 35 indirectly depends upon, also claims "a bore".

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 38 recites the broad recitation at least one plate, and the claim also recites preferably a pair of plates which is the narrower statement of the range/limitation.

Claims 2-5, 7-15, 29-30, 37 and 39 are necessarily rejected, since these claims directly or indirectly depend upon the rejected base claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-17, 19, 21, 23-30, 32-36, and 38 are rejected under 35

U.S.C. 102(b) as being anticipated by Tamaki et al (US 5,984,532).

Tamaki et al discloses an optical fiber connector for forming a mechanical splice between first and second bare optical fibers stripped of coatings, the connector comprising a connector body that comprises a central lid (17) that has at least two main clamping sections dimensioned to clamp directly onto the bare fiber of the first and second optical fibers, the main clamping sections arranged such that the first optical fiber is clamped by a first of the main clamping sections independently of the second optical fiber. At lines 12-14 of column 2 and lines 25-27 of column 4, Tamaki et al teaches that the clamping mechanisms provides ability to switch the connections. Note, the center lid provides two clamping sections since it clamps two optical fibers at different sections.

As to claims 2 and 13, Tamaki et al teaches to provide the connector body having a bore arranged to accommodate the optical fibers. Note, when a base and lid members of the connector body are joined together results in the claimed bore.

As to claims 4 and 5, Tamaki et al discloses two additional clamping sections (19) to clamp onto coated portions of the first and second optical fibers. See Fig. 2.

As to claim 6, Tamaki et al discloses four clamping sections, two main center clamping sections for the bare (naked) optical fibers (7a of the first fiber and 7a for the second fiber) and two additional clamping sections (19) for coated optical fibers.

As to claims 14-16, when the two halves (base and the lid members) of the connector body are joined it constitutes the bore with three regions (8, 9, and 21). As can be seen in Figs. 2-3, the bore inherently constitutes different diameters, i.e. the second region (9) has a diameter greater than the region (1) and the third region (21) has a diameter greater than the second region. In lines 40-41 of column 7, Tamaki et al teaches to employ U groove (9) and when both the base and the lid are joined together, it would constitute a substantially circular cross section (see Fig. 3).

At to claims 25-26 and 29, Tamaki et al discloses a resilient clamp member (4) to retain the optical fibers in a clamped condition in the connector body. The clamp member retains the parts of the connector body (base, center lid member, end lid members).

As to claim 33, Tamaki et al discloses embodiments (Figs. 16-20) having a plurality of first and second optical fibers.

As to claim 34, the grooves in Tamaki et al are construed as alignment means.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 18, 20, 22, 31, 37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaki et al.

Tamaki et al, as applied to claims above, fails to explicitly disclose external diameter of optical fiber (125 μm , 250 μm , 900 μm).

However, in lines 18-26 of column 7, Tamaki et al teaches that the optimum types of optical fiber used in the optical connector is standard 125 μm cladding diameter types or GI types. Large diameter fibers may be used and when the large diameter optical fibers applied, it is possible to make various design modification such as the depths of the centering grooves 8 or optical fiber guide grooves 9, or the clearance maintained between the base and the lid member 3.

The optical fibers with the different diameters (125 μm , 250 μm , 900 μm) are commercially available and utilized for different purposes (i.e. single mode, multimode applications, and bidirectional communication systems).

From teaching of Tamaki et al the ordinary artisan would have found it obvious at the time of the invention to utilize commercially available optical fibers having claimed diameter for the purpose of advantageously utilizing the optical fiber connector of Tamaki et al in the desired applications.

As to claim 31, Tamaki et al fails to disclose a plug to close an end of the bore when the optical fiber is not installed in that end of the bore.

However, utilizing a cap member to close an end of the connector, when not in use, is well known to avoid dust and other contaminations in the connector. It should be noted that Tamaki et al uses the connector to switch the connection with different fibers.

From available well known techniques, the ordinary artisan would have found it to be obvious at the time of the invention to include a plug when the connector not in use for the purpose of advantageously protecting the connector from contamination, which is highly desirable in the field when preparation of connection switching is sought.

As to claim 37, Tamaki et al fails to disclose a tube as an alignment member in the connector body.

However, in lines 5-8 of claim 15, Tamaki et al teaches that as the centering mechanism, it is possible to use structure which hold the optical fibers at the center of three precision rods or three precision balls.

It is well known in the art to utilize a tube for aligning optical fibers in the connector providing an efficiently coupling between the fibers.

From available well known teachings and suggestion by Tamaki et al, the ordinary artisan would have found it to be obvious at the time of the invention to provide a tube in connector body of Tamaki et al to hold the optical fibers in alignment and provides centering for the purpose of efficiently coupling the fibers.

As to claim 39, Tamaki et al fails to disclose a lens in the lid members (plates). It is well known in the art to utilize a lens between the fibers for efficiently focusing or collimating the light between the fibers and reducing the coupling loss.

From available well known techniques, the ordinary artisan would have found it to be obvious at the time of the invention to utilize a lens in the lid members of the connector body in Tamaki et al for advantageously the coupling loss between the fibers.

Allowable Subject Matter

Claim 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to disclose or suggest five clamping sections in the optical fiber connector. As discussed above, Tamaki et al discloses four clamping sections and there is no motivation or teaching in the prior art to utilize one more clamping section.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee, Saito et al, and Koyama et al disclose different types of splicing between the fibers including a clamping mechanism.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HEMANG SANGHAVI whose telephone number is (571)272-9955. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hemang Sanghavi/
Primary Examiner, Art Unit 2874

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